



Perimeter Security Industries Pty Ltd

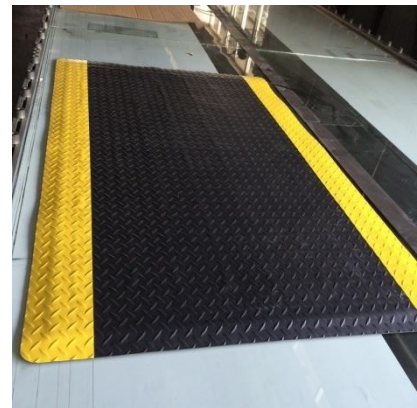
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Installation Manual for the *Safety Alert Sensor Mat*

READ THIS MANUAL IN FULL BEFORE INSTALLATION

The *Safety Alert Sensor Mat* is a pressure sensitive sensor mat designed for use as a security and/or safety product in an industrial, commercial or home environment.

The *Safety Alert Sensor Mat* is available from the General Mat Company www.generalmat.com.au. It incorporates the unique patented SecureMat technology developed by PSI. This manual covers the installation and use of the sensor mat. Installation procedures should be carried out by suitably trained and qualified personnel and should be in accordance with statutory requirements for safety. After installation this manual should be retained in a safe and accessible place.



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SECTION 1 STORAGE AND HANDLING

1.1 Mat construction

The Safety Alert Sensor Mat has a Vinyl surface 3mm thick and a soft sponge base 4mm thick. Sandwiched between the two layers is a mesh containing a continuous loop of fibre-optic cable. A single sensor embedded in the mat sends a continuous light beam through the fibre-optic cable. When a person steps onto the mat this disturbs the light and a microprocessor in the embedded sensor triggers an alarm. This alarm signal is relayed to an alarm panel via the 6 core security cable which is attached to the corner of the mat.

1.2 Storage


Safety Alert Sensor Mats should be stored within the temperature range -40°C to +70°C. The mats should preferably be stored flat to avoid creasing or folding. However the mats can be stored either folded or rolled without causing any damage to the sensor operation.

1.3 Handling and transport

Safety Alert Sensor Mats should be transported within the temperature range -40°C to +70°C. Always unpack carefully and avoid damage by scissors, knives or any other sharp implements. When Safety Alert Sensor Mats are being moved into position do not pull or lift the mat by the security cable.

For the larger Safety Alert Sensor Mats weighing more than 20kg two people may be required for safe lifting and to prevent risk of damage to the mats from excessive flexing.

1.4 Regulatory Compliance Mark (incorporating C-tick)

In Australia the Australian Communications and Media Authority (ACMA) is responsible for the regulation of electronic devices. The ACMA issues a Regulatory Compliance Mark (RCM) which indicates compliance with the applicable technical standards for an electronic device and establishes a traceable link between the device and the supplier responsible for placing it on the market. The RCM indicates a device's compliance with applicable EMC and EME (Electromagnetic Energy) and with applicable state and territory electrical equipment safety requirements. Rules for use of the RCM can be found in *AS4417: Marking of electrical and electronic products to indicate compliance with regulations*. The RCM label consists of the RCM compliance mark  and the Supplier Code Number (SCN) as issued by the ACMA.

1.5 Reference numbering of Safety Alert Sensor Mats

All Safety Alert Sensor Mats contain one or more sensors which have a label clearly showing the RCM and the SCN, and a unique number allocated to the electronic sensor. This label is not visible from the outside and is only able to be accessed by installers authorised by PSI.

SECTION 2. INSTALLATION

Section 2.1 Connecting to an alarm panel

Safety Alert Sensor Mats are designed to operate when connected to any standard alarm panel. The connection of the Safety Alert Sensor Mat to the alarm panel must be undertaken by a qualified technician according to the following wiring layout:

Brown and Brown+White	Power and ground connection. 9-24 Volts DC.
Orange and Orange + White	Alarm Relay. The relay is closed when the system is switched on and operating, the relay will open when in alarm.

Note: When an alarm occurs the relay will open for a minimum of three seconds and take a further three seconds to reset.

Section 2.2 Installing the Safety Alert Sensor Mat

Key points to note:

- Safety Alert Sensor Mats are generally suitable for use on any firm indoor or outdoor surface including carpet, tiles, timber and concrete floors, pavers etc.
- Do not fold or crease the Safety Alert Sensor Mat during installation and do not pull or lift the mat by its connecting cable(s).
- Power fail (restart) the device if the Safety Alert Sensor Mat configuration changes e.g. if the Safety Alert Sensor Mat is partially rolled, moved to a new surface, or a heavy object is placed on the Safety Alert Sensor Mat.
- Safety Alert Sensor Mats are factory set to alarm for a weight greater than approximately 20kg or more so as to reject nuisance alarms such as would be caused by small animals. This setting can be changed at any time by qualified installers (see Section 2.4).
- The Safety Alert Sensor Mats is designed for indoor or outdoor use.
- Very heavy loads such as vehicles may damage the Safety Alert Sensor Mat.
- Communication with the embedded sensor inside the Safety Alert Sensor Mat is via the blue and blue-white wires using a USB RS485 Converter into a USB Port on a computer, laptop or tablet. This can only be undertaken by installers authorised by PSI. (See Section 2.4).

Section 2.3 Power consumption

The Safety Alert Sensor Mat system power consumption will be approximately 2W during continuous operation.

Section 2.4 Communicating with the Embedded Sensor

Communication with the embedded sensor inside the Safety Alert Sensor Mat is via the blue and blue-white wires using a USB RS485 Converter into a USB Port on a computer, laptop or tablet. This can only be undertaken by installers authorised by PSI.

To begin, the Embedded Sensor executable file (EXE) must be installed onto a computer, laptop or tablet. The Embedded Sensor EXE is available from PSI under license.

Once the Embedded Sensor EXE is installed the following sequence will establish communication with the Safety Alert Sensor Mat:

1. Insert the USB RS485 Converter into a USB port on the computer.
 2. Ensure the Embedded Sensor is being powered via a visual check with the alarm panel. If there is no power then the Safety Alert Sensor Mat will need to be powered by connecting a 12v battery to the brown/brown-white wires or by other means.
 3. Open the Embedded Sensor executable file and select the port into which the USB RS485 Converter is inserted.
 4. Click “Open” to activate the embedded sensor tester.
 5. Click “Broadcast”. Note that the serial number of your Safety Alert Sensor Mat electronics appears in the text box.
 6. A vertical red line will appear in the main screen area. Three coloured lines – yellow, orange and white – should also appear. These are the four filters which are used to distinguish ‘true’ disturbances from false and nuisance alarms. If these do not appear within 20 seconds, the scale will need to be reset using the DC Offset button. The DC offset moves the scale up or down – commonly the scale works in the range 1.45 to 1.85 but this may need to be altered as different mats can vary.
 7. To test the alarm stand or walk on the mat. The word **ALARM** will appear.
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